



Case Head Separation

Rev. 3

This article addresses a relatively common problem that occurs with 375H&H.

When this occurs, there is absolutely NO DANGER to the shooter, in fact they will not notice anything different when the shot is fired! That is because the case is totally contained within the chamber and therefore all the pressure of the expanding gases is used to push the bullet out the barrel.

The only issues could be one of the following:

1. The ruptured case head is ejected, and the case remains in the chamber causing a jam if another round is chambered behind that one. This can be resolved by removing the bolt, and manually extracting the round as well as the ruptured case. The case portion often just drops out when the rifle is held vertically. If the case remains in the chamber, then a cleaning rod with a jag with a 2x4 wrapped around it, can be forced into the case and then the case pulled out the chamber. If a bore-snake is available, this can be inserted from the muzzle side and pulled through the barrel, which will dislodge the case portion. Figure 1 below shows a ruptured case with the case-head as a separate portion.



Figure 1

2. The partially ruptured head and case are ejected safely, and the shooter carries on without even noticing anything untoward. This leads to a good discussion of what happened as well as a good lesson why reloads are NOT to be used when Guiding! Figure 2 below shows the case-head still attached to the case, but with an obvious "break" in the case itself.



Figure 2

So why does this occur?

There are two possible causes

1. It can be that the case has been reloaded too many times. During the reloading process, a die is used to resize the case back to its original specification to ensure that it chambers correctly in the rifle. Part of this process involves resizing the external dimensions of the case as well as the internal neck. When the neck is resized, an expander ball is pulled upwards pressing the internal portion of the neck against the side of the die. This process also "pulls" the brass from the bottom, or web of the case. The web starts getting thinner and thinner after every resize until a shiny ring can sometimes be noticed, indicating that a case head separation is imminent. See figure 3 below.



Figure 3

2. The second and possibly the more common reason is that the headspace of the action is too loose. This can only be checked using a NO-GO gauge. If the bolt closes on the NO-GO gauge, then the headspace is too loose, and the rifle needs to be urgently sent to a proficient gunsmith so that the problem can be resolved. This will be a relatively expensive exercise as the barrel needs to be removed and a complete turn taken off the face of the barrel and then the chamber rebores.

EXCESSIVE HEADSPACE IS DANGEROUS!

Plainly, when this “shiny ring” is noticed, the case should be immediately rejected. However, the “shiny ring” is not always obvious!

If we look inside a case that is about to have a head separation, we can clearly see the thin spot as indicated in figure 4 below. It is obvious that the internal portion is not easily identified and that is why this can occur without an obvious warning sign!



Figure 4

We trust that this both clarifies the problem as well as reducing concern when it occurs!

Once again, there is NO DANGER to the shooter when this happens as the case is safely supported inside the chamber of the rifle.

NOTE: The cases shown in this article are 308 WIN cases, however the problem identifies itself in precisely the same manner on 375H&H cases.